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In re Application of)
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JOHN G. MARK & IKE SONG)
Serial No. 09/917,578) Art Unit 2873
Filed: 28 July 2001)
For: SLEEVE FOR PIG-TAILING OPTICAL FIBER) Examiner Omar Z. Hindi

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1 1. A vehicle for enabling attachment of an optic fiber to a multi-integrated optic
2 chip in optical communication therewith, and for maintaining alignment of the fiber at
3 its end adjacent the chip, comprising:
4 a sleeve having a symmetrically-shaped cavity bounded by termini which
5 respectively interface with the chip and the fiber; and
6 an adhesive disposed within the cavity and symmetrically bonding the
7 fiber to the chip.

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1 2. A vehicle for enabling attachment of an optic fiber to a multi-integrated optic
2 chip in optical communication therewith, and for maintaining alignment of the fiber at
3 its end adjacent the chip, comprising:
4 a sleeve which has a symmetrically-shaped cavity bounded by termini that
5 respectively interface with the chip and the fiber, and in which
6 said cavity has an axis and is internally bounded by a wall which is
7 substantially centered on the axis and which extends from said chip-interfacing
8 terminus to said fiber-interfacing terminus,
9 said termini are centered on the axis, and
10 a line, lying within any plane intersecting the axis at right angles
11 thereto and terminating in said cavity wall, is bisected into two equal segments; and
12 an adhesive disposed within the cavity and symmetrically bonding the
13 fiber to the chip.

1 3. A vehicle for enabling attachment of an optic fiber to a multi-integrated optic
2 chip in optical communication therewith, and for maintaining alignment of the fiber at
3 its end adjacent the chip, comprising:

4 a sleeve which has a symmetrically-shaped cavity bounded by termini that
5 respectively interface with the chip and the fiber, and which is configured to fit onto the
6 chip and is disposed to accept the fiber; and

7 an adhesive disposed within the cavity and symmetrically bonding the
8 fiber to the chip.

1 4. A vehicle according to claim 3 wherein:

2 said cavity has an axis and is internally bounded by a wall which is
3 substantially centered on the axis and which extends from said chip-fitting terminus to
4 said fiber-accepting terminus;

5 said termini are centered on the axis; and

6 a line lying within any plane intersecting the axis at right angles thereto
7 and terminating in said cavity wall is bisected into two equal segments.

1 5. A vehicle according to claim 4 wherein said cavity wall slopes from said
2 chip-fitting terminus to said fiber-accepting terminus.

1 6. A vehicle according to claim 4 in which said sleeve so controls said
2 adhesive as to provide and preserve a symmetrical bonding of the fiber with respect to
3 the chip over gravitational and wicking effects.

1 7. A vehicle according to claim 6 in which said cavity wall is shaped as a
2 truncated right circular cone.

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1 8. A vehicle according to claim 6 in which said cavity wall is shaped as a
2 truncated pyramid.

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1 9. A vehicle according to claim 4 in which said sleeve is temporarily attached
2 to said adhesive and the chip.

1 10. A vehicle according to claim 4 in which said sleeve is permanently
2 attached to said adhesive and the chip.

1 11. A method for attaching an optic fiber to an optic chip and for maintaining
2 alignment of the fiber at its end adjacent the chip, comprising the steps of:
3 positioning a sleeve having a symmetrically shaped cavity on the chip;
4 placing an adhesive into the sleeve cavity;
5 inserting the fiber into the cavity;
6 securing the fiber to the chip; and
7 curing the adhesive.

1 12. A method according to claim 11 further comprising the step of aligning the
2 fiber within the cavity and positioning the fiber end adjacent the chip.

b 1 13. A method according to claim 11 further comprising the step of removing
2 the sleeve from the chip after the adhesive has cured.

a 1 14. A method according to claim 11 further comprising the step of leaving the
2 sleeve securely on the chip after the adhesive has cured.

1 15. A method according to claim 11 further comprising the step of providing
2 the sleeve cavity with a truncated pyramid configuration.

1 16. A method according to claim 11 further comprising the step of providing
2 the sleeve cavity with a truncated right circular cone configuration.

1 17. A method for attaching an optic fiber to an optic chip and for maintaining
2 alignment of the fiber at its end adjacent the chip, comprising the steps of:
3 utilizing a sleeve having a symmetrically shaped cavity;
4 placing an adhesive into the sleeve cavity;
5 positioning the sleeve onto the chip;

6 inserting the fiber into the cavity;
7 aligning the fiber within the cavity and positioning the fiber end adjacent
8 the chip;
9 securing the fiber to the chip; and
10 curing the adhesive.

1 18. A method according to claim 17 further comprising the step of removing
2 the sleeve from the chip after the adhesive has cured.

1 19. A method according to claim 17 further comprising the step of leaving the
2 sleeve securely on the chip after the adhesive has cured.

1 20. A method according to claim 17 further comprising the step of providing
2 the sleeve cavity with a truncated pyramid configuration.

1 21. A method according to claim 17 further comprising the step of providing
2 the sleeve cavity with a truncated right circular cone configuration.